

LOG OF BORING

Project: Sand Search for DMPAs

Boring No.: B-1

Groundwater during drilling: ---

Groundwater after drilling: ---

Date: 2/13/2006

Northing: 13,699,207.0

Easting: 3,302,818.0

Project No.: HG-05-28280

Elevation: 16.24 feet

Station: --

Offset: --

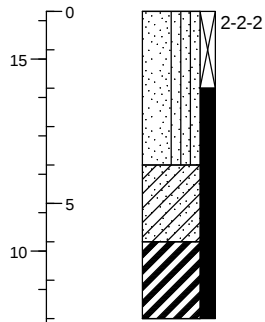
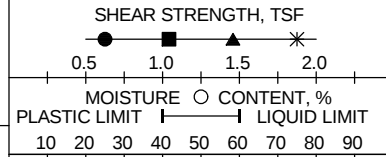
ELEV.
DEPTH,
FEET

SOIL SYMBOLS
SAMPLER SYMBOLS
AND FIELD TEST DATA

SOIL/ROCK CLASSIFICATION

% PASSING
NO. 200 SIEVE

DRY DENSITY
PCF



Dark greenish gray SAND w/ silt (SP-SM)

Dark gray CLAYEY SAND (SC)

Very dark greenish gray CLAY (CH)

9
10
26
94

Shear Types:

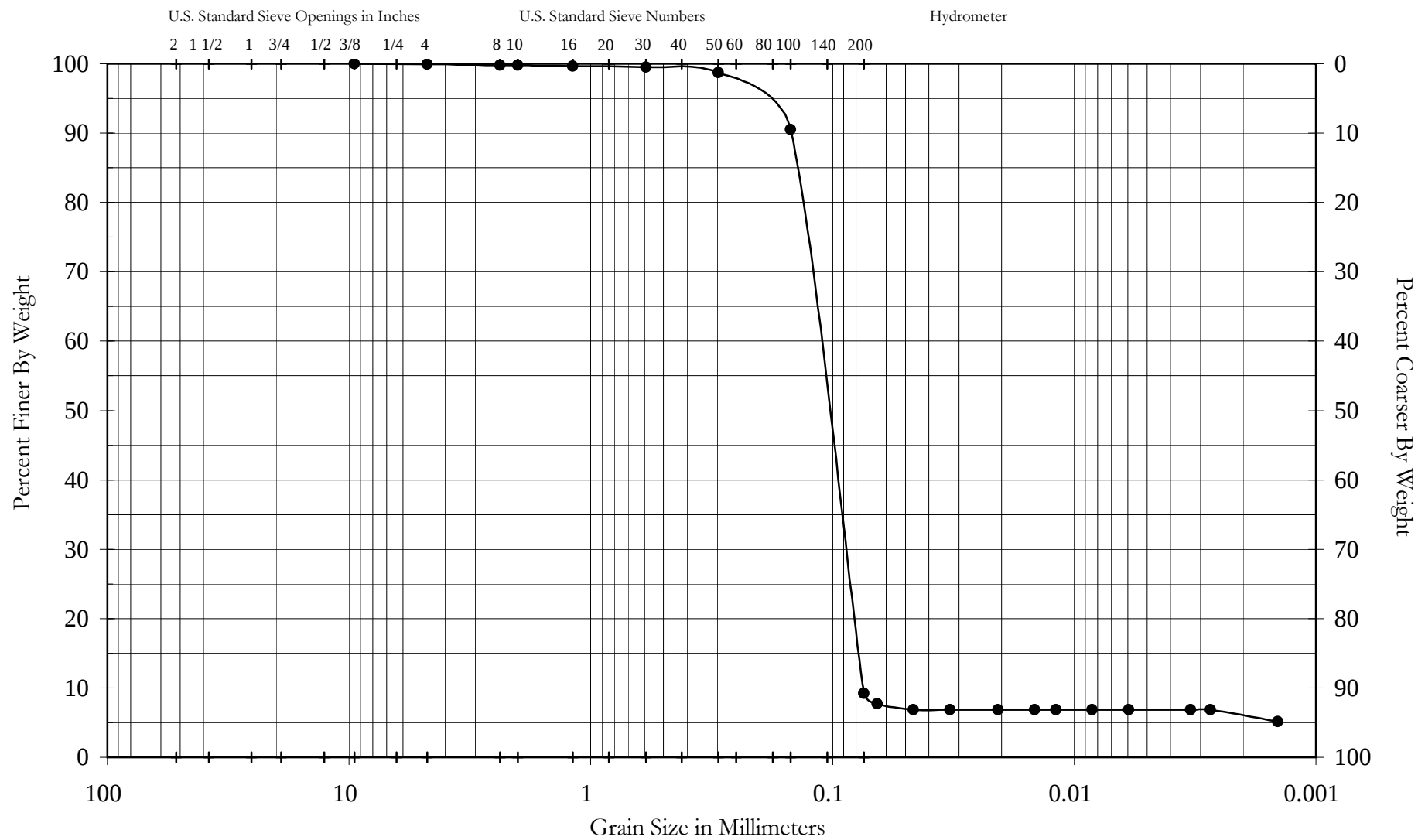
● = Hand Penet.

■ = Torvane

▲ = Unconf. Comp.

* = UU Triaxial

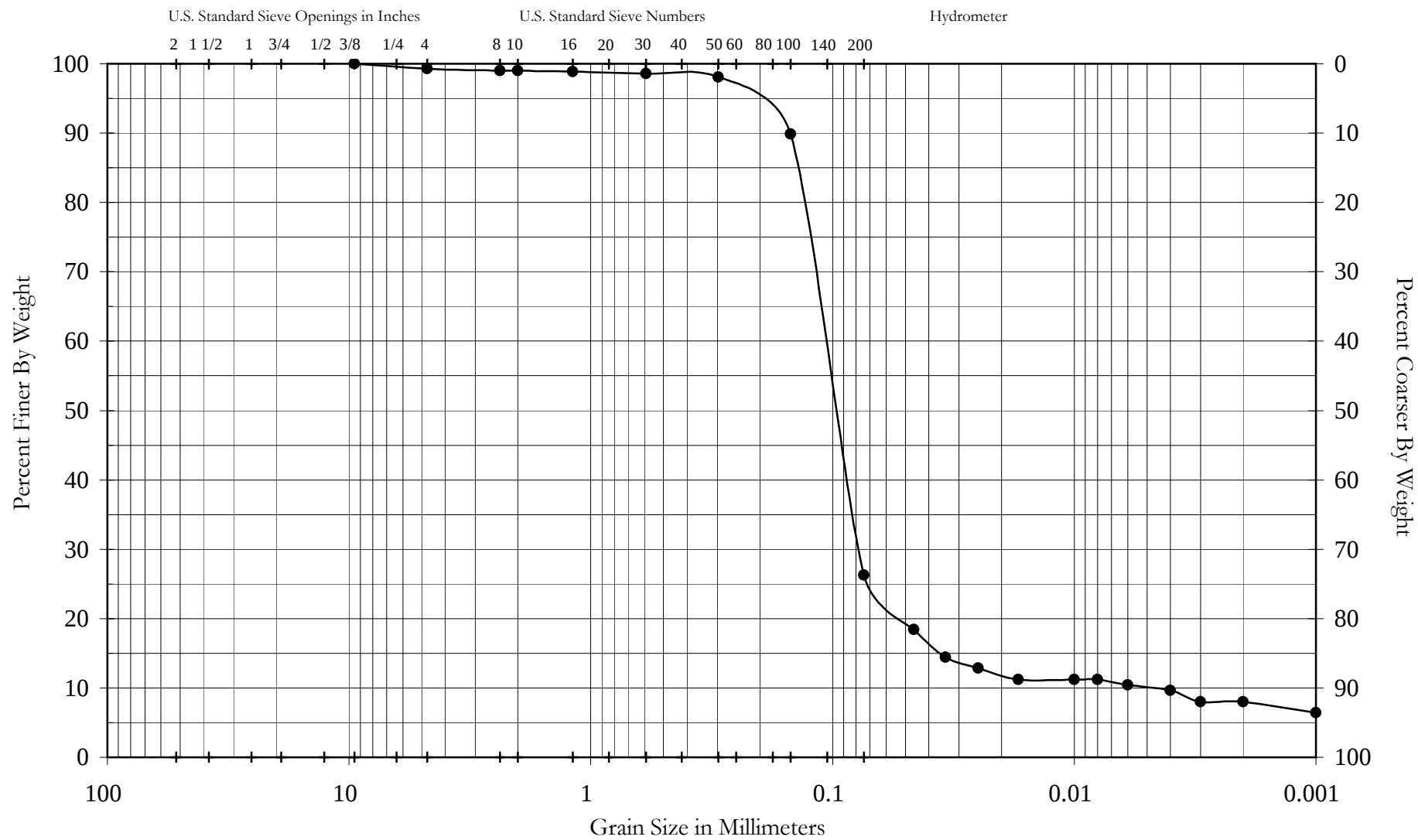
PLATE A-1



Boring No.
B-1

Depth, Ft.
0-2'

Classification
Dark greenish gray Sand



SIEVE ANALYSIS DATA

Project:	Sand Search	Job No.	HG-05-28280	Date:	02/15/06
Boring No.	1	Sample No.	1	Depth:	0-2 ft
Matl Desc.	Dark greenish gray Sand				

Tare No.	5	Init Wt. - Tare	67.08	% Ret.	90.79
Tare Wt.	6.69	Dry Wt. after test	67.59	% Pass #200	9.21
Init. Dry Wt.	73.77	Wt. Ret. on #200	60.90		

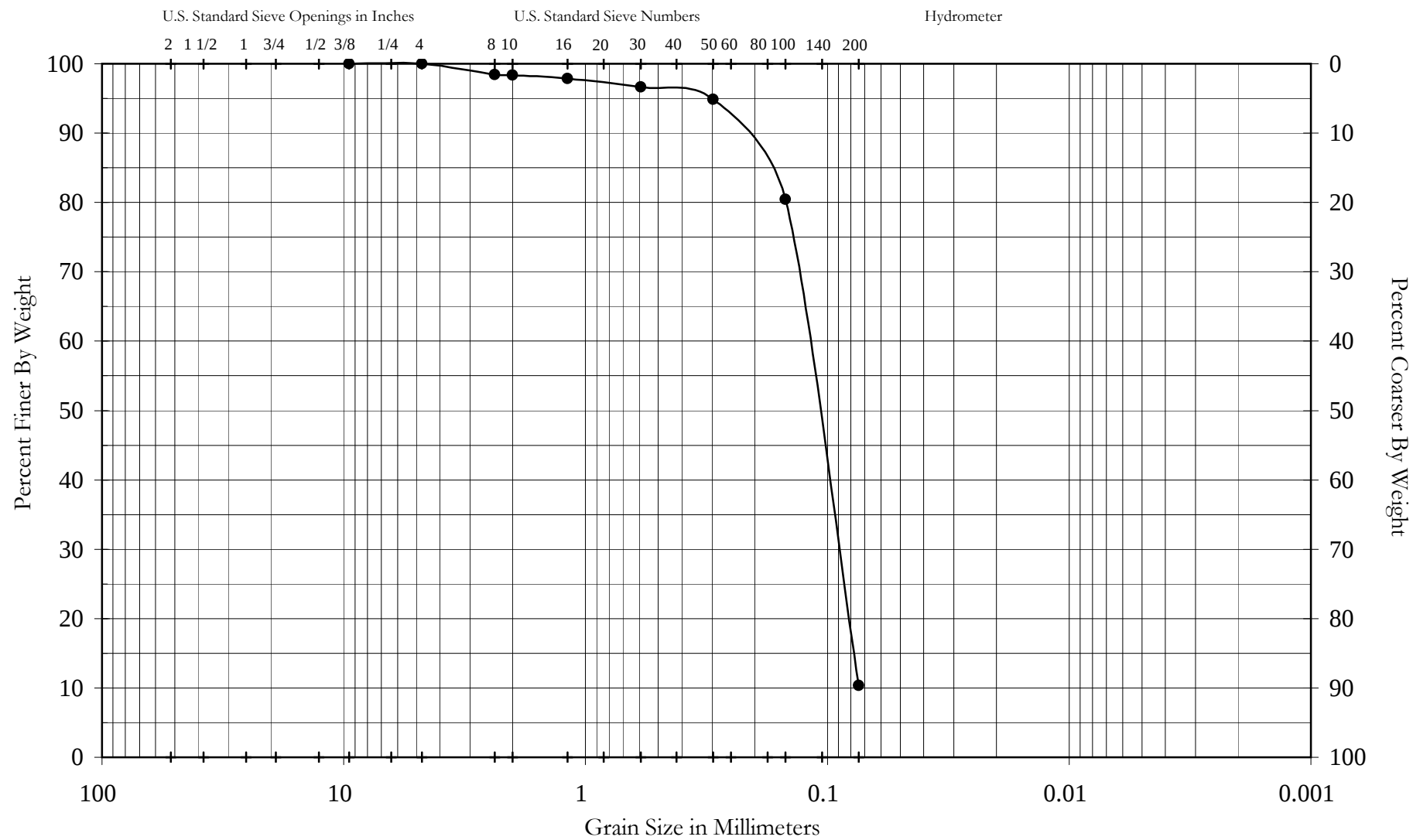
Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
3/8"	9.5	0.00	0.00	100.00
4	4.76	0.05	0.07	99.93
8	2.38	0.14	0.21	99.79
10	2	0.16	0.24	99.76
16	1.19	0.24	0.36	99.64
30	0.59	0.32	0.48	99.52
50	0.297	0.87	1.30	98.70
100	0.149	6.39	9.53	90.47
200	0.074	60.90	90.79	9.21
	0.065			7.68
	0.046			6.82
	0.033			6.82
	0.021			6.82
	0.015			6.82
	0.012			6.82
	0.008			6.82
	0.006			6.82
	0.003			6.82
	0.003			6.82
	0.001			5.12

SIEVE ANALYSIS DATA

Project:	Sand Search	Job No.	HG-05-28280	Date:	02/15/06
Boring No.	1	Sample No.	3	Depth:	4-6'
Matl Desc.	Dark green Clayey sand				

Tare No.	15	Init Wt. - Tare	50.96	% Ret.	73.70
Tare Wt.	6.70	Dry Wt. after test	44.26	% Pass #200	26.30
Init. Dry Wt.	57.66	Wt. Ret. on #200	37.56		

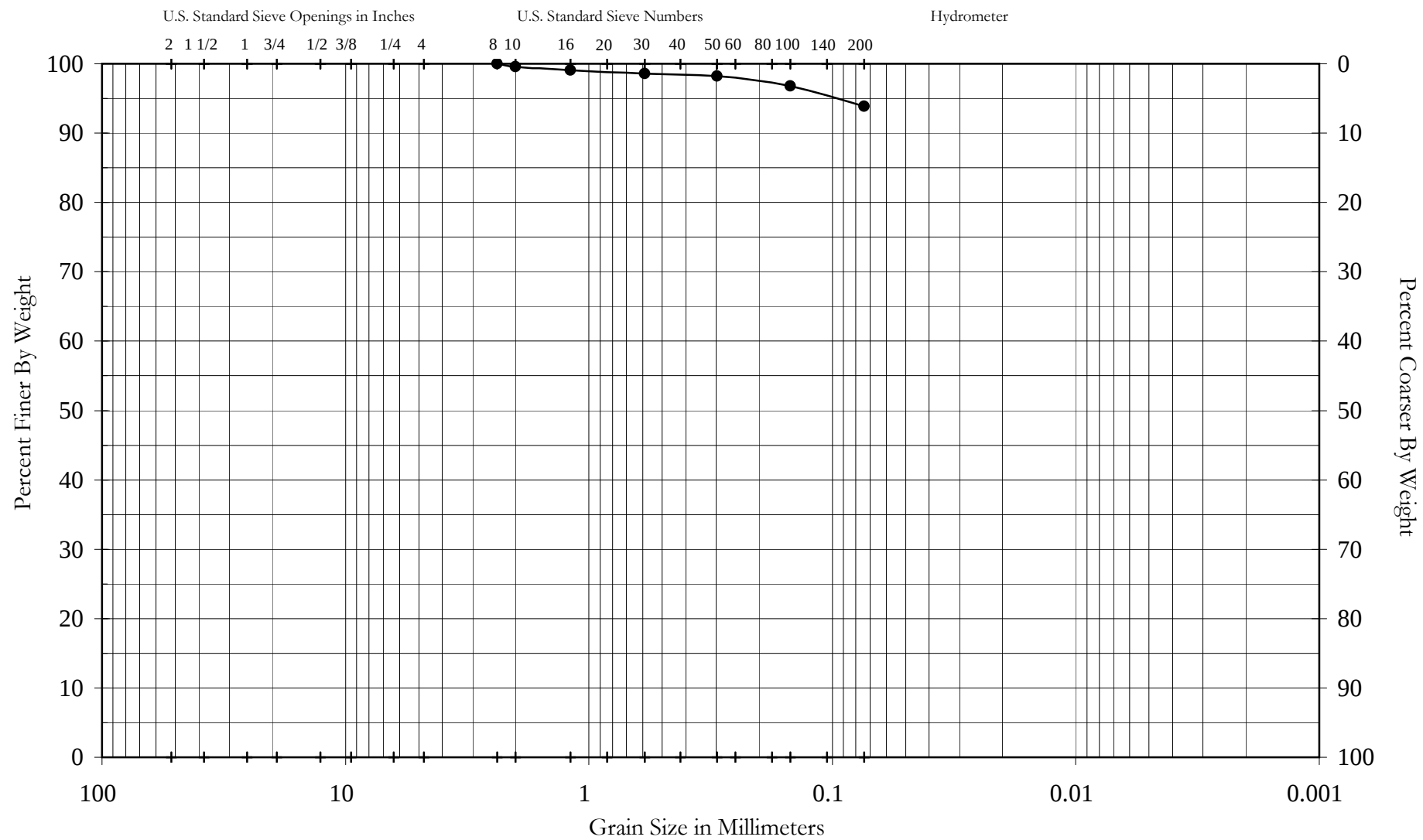
Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
3/8"	9.5	0.00	0.00	100.00
4	4.76	0.36	0.71	99.29
8	2.38	0.50	0.98	99.02
10	2	0.51	1.00	99.00
16	1.19	0.57	1.12	98.88
30	0.59	0.71	1.39	98.61
50	0.297	0.99	1.94	98.06
100	0.149	5.18	10.16	89.84
200	0.074	37.56	73.70	26.30
	0.046			18.42
	0.034			14.42
	0.025			12.82
	0.017			11.21
	0.010			11.21
	0.008			11.21
	0.006			10.41
	0.004			9.61
	0.003			8.01
	0.002			8.01
	0.001			6.41



Boring No.
B-1

Depth, Ft.
2-4'

Classification
Dark greenish gray Sand with silt



Boring No.
B-1

Depth, Ft.
6-8'

Classification
Dark gray Clayey sand

SIEVE ANALYSIS DATA

Project:	<u>Sand Search</u>	Job No.	<u>HG-05-28280</u>	Date:	<u>02/15/06</u>
Boring No.	<u>1</u>	Sample No.	<u>2</u>	Depth:	<u>2-4'</u>
Matl Desc.	<u>Dark greenish gray Sand with silt</u>				

Tare No.	9	Init Wt. - Tare	67.17	% Ret.	89.65
Tare Wt.	6.87	Dry Wt. after test	67.09	% Pass #200	10.35
Init. Dry Wt.	74.04	Wt. Ret. on #200	60.22		

[illegible]

SIEVE ANALYSIS DATA

Project:	Sand Search	Job No.	HG-05-28280	Date:	02/15/06
Boring No.	1	Sample No.	4	Depth:	6-8'
Matl Desc.	Dark gray clayey Sand				

Tare No.	11	Init Wt. - Tare	47.39	% Ret.	6.12
Tare Wt.	6.62	Dry Wt. after test	9.52	% Pass #200	93.88
Init. Dry Wt.	54.01	Wt. Ret. on #200	2.90		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
8	2.38	0.00	0.00	100.00
10	2	0.19	0.40	99.60
16	1.19	0.44	0.93	99.07
30	0.59	0.69	1.46	98.54
50	0.297	0.84	1.77	98.23
100	0.149	1.51	3.19	96.81
200	0.074	2.90	6.12	93.88

Work Order No. 1306-06-001
Dredged Material Placement Area (DMPA)
Pelican Island Geotechnical investigation
GLO Contract No. 06-090C
Requisition No. 317-6-0482

February 13, 2006

Sample Analysis Performed by: TAMUG
 Grain Size Analysis Performed by: GBA, Associates

Hole No: 1	Sample No: 1B	Depth: 2-3 ft
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Note: Enter data in to the green cells

Sieve Size, (No.)	Sieve Size, (mm)	Cumulative Weight Retained on Sieve, (grams)	Weight Retained on Sieve, (grams)	Phi, f	% Coarser by Weight	% Finer than by Weight
10	2	4.17	4.17	-1.0	4.51%	95.49%
14	1.41	5.19	1.02	-0.5	5.61%	94.39%
18	1	5.74	0.55	0.0	6.20%	93.80%
25	0.71	6.34	0.6	0.5	6.85%	93.15%
35	0.5	6.84	0.5	1.0	7.39%	92.61%
45	0.354	7.63	0.79	1.5	8.25%	91.75%
60	0.25	9.72	2.09	2.0	10.50%	89.50%
80	0.177	19.26	9.54	2.5	20.81%	79.19%
125	0.125	59.94	40.68	3.0	64.77%	35.23%
170	0.088	80.73	20.79	3.5	87.24%	12.76%
200	0.074	89.03	8.3	3.8	96.21%	3.79%
230	0.0625	91.28	2.25	4.0	98.64%	1.36%
Pan	0.0039	92.54	1.26	8.0	100.00%	0.00%

Total Weight of Sediment = 92.54 grams

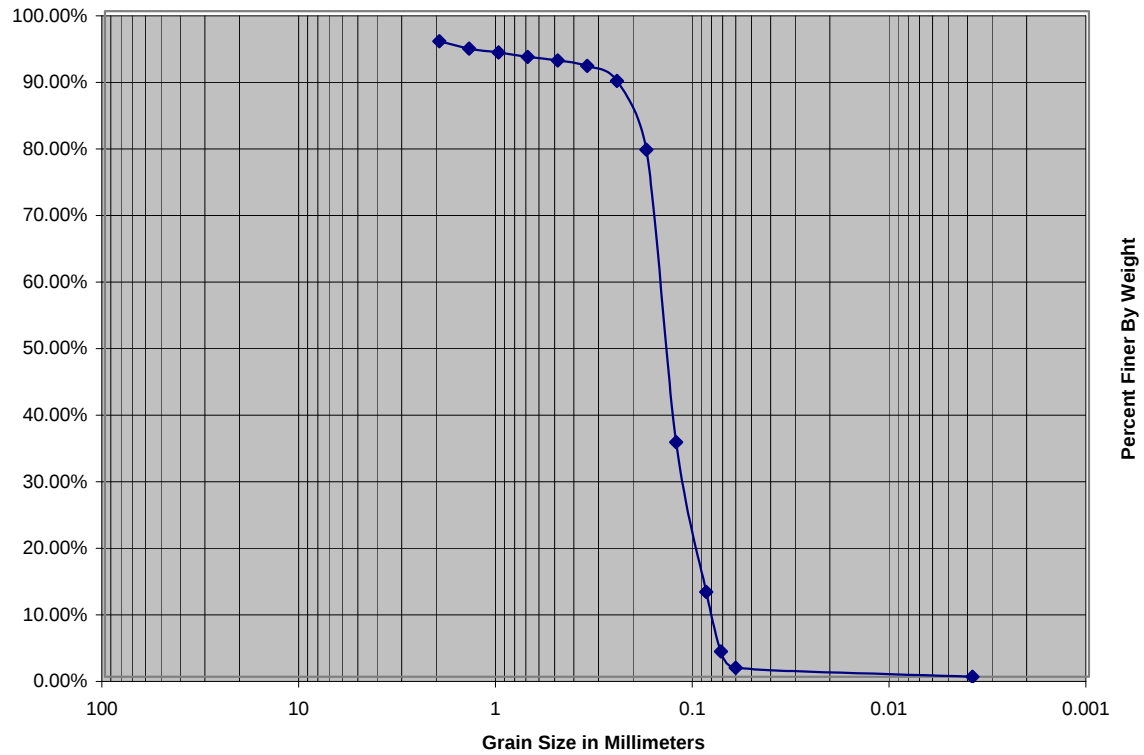
Median Sand Size:		Diameter formulas must be adjusted for accurate percentage, formulas are interpolation equations			
	$D_{50} =$	0.14	$D_{16} =$	0.32	$D_{84} =$ 0.04
	$\phi_{50} =$	2.8	$\phi_{16} =$	1.7	$\phi_{84} =$ 4.7
			$D_5 =$	0.29	$D_{95} =$ 0.01
			$\phi_5 =$	1.8	$\phi_{95} =$ 6.1

Mean:		
	PHI	mm
$M_{d\phi} = (\phi_{16} + \phi_{84})/2 =$	3.2	0.1

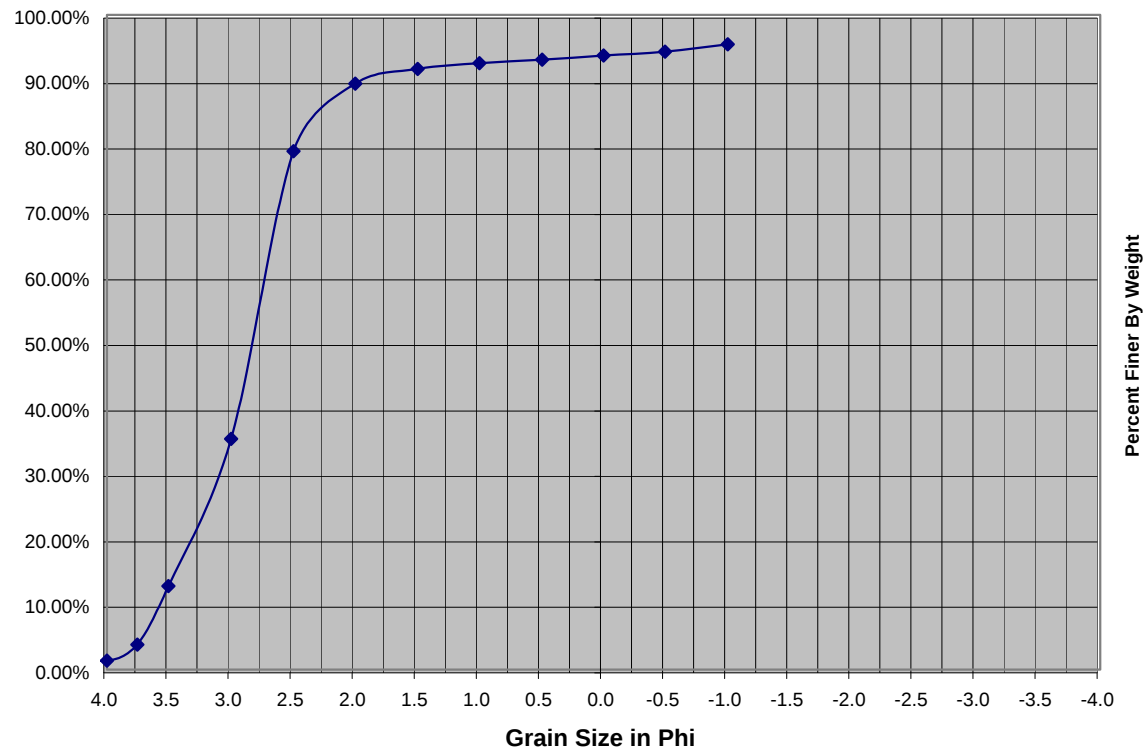
Standard Deviation:		
$\sigma_{\phi} = (\phi_{84} - \phi_{16})/4 + (\phi_{95} - \phi_5)/6 =$	1.5	Poorly Sorted
		$\sigma_{\phi} \leq 0.5$: Sample is well sorted. $\sigma_{\phi} \geq 1.0$: Sample is poorly sorted.

Skewness:		
$\alpha_{\phi} = (\phi_{16} + \phi_{84} - (2 * \phi_{50})) / (2(\phi_{84} - \phi_{16})) + (\phi_5 + \phi_{95} - (2 * \phi_{50})) / (2(\phi_{95} - \phi_5)) =$	-0.4	Coarse-Skewed
		$\alpha_{\phi} < -0.1$: Sample is Coarse-Skewed $\alpha_{\phi} -0.1$ to $+0.1$: Sample is Near-Symmetrical $\alpha_{\phi} > +0.1$: Sample is Fine-Skewed

Auger 1 Sample 1B Depth 2 to 3 ft, Sieve Analysis



Auger 1 Sample 1B Depth 2 to 3 ft, Sieve Analysis



Work Order No. 1306-06-001
Dredged Material Placement Area (DMPA)
Pelican Island Geotechnical investigation
GLO Contract No. 06-090C
Requisition No. 317-6-0482

February 13, 2006

Sample Analysis Performed by: TAMUG
 Grain Size Analysis Performed by: GBA, Associates

Hole No: 1	Sample No: 1A	Depth: 0-1 ft
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Note: Enter data in to the green cells

Sieve Size, (No.)	Sieve Size, (mm)	Cumulative Weight Retained on Sieve, (grams)	Weight Retained on Sieve, (grams)	Phi, f	% Coarser by Weight	% Finer than by Weight
10	2	0	0	-1.0	0.00%	100.00%
14	1.41	1.01	1.01	-0.5	1.10%	98.90%
18	1	1.01	0	0.0	1.10%	98.90%
25	0.71	2.4	1.39	0.5	2.62%	97.38%
35	0.5	3.05	0.65	1.0	3.32%	96.68%
45	0.354	4.09	1.04	1.5	4.46%	95.54%
60	0.25	4.9	0.81	2.0	5.34%	94.66%
80	0.177	7.41	2.51	2.5	8.08%	91.92%
125	0.125	50.24	42.83	3.0	54.76%	45.24%
170	0.088	75.45	25.21	3.5	82.23%	17.77%
200	0.074	83.61	8.16	3.8	91.13%	8.87%
230	0.0625	90.87	7.26	4.0	99.04%	0.96%
Pan	0.0039	91.75	0.88	8.0	100.00%	0.00%

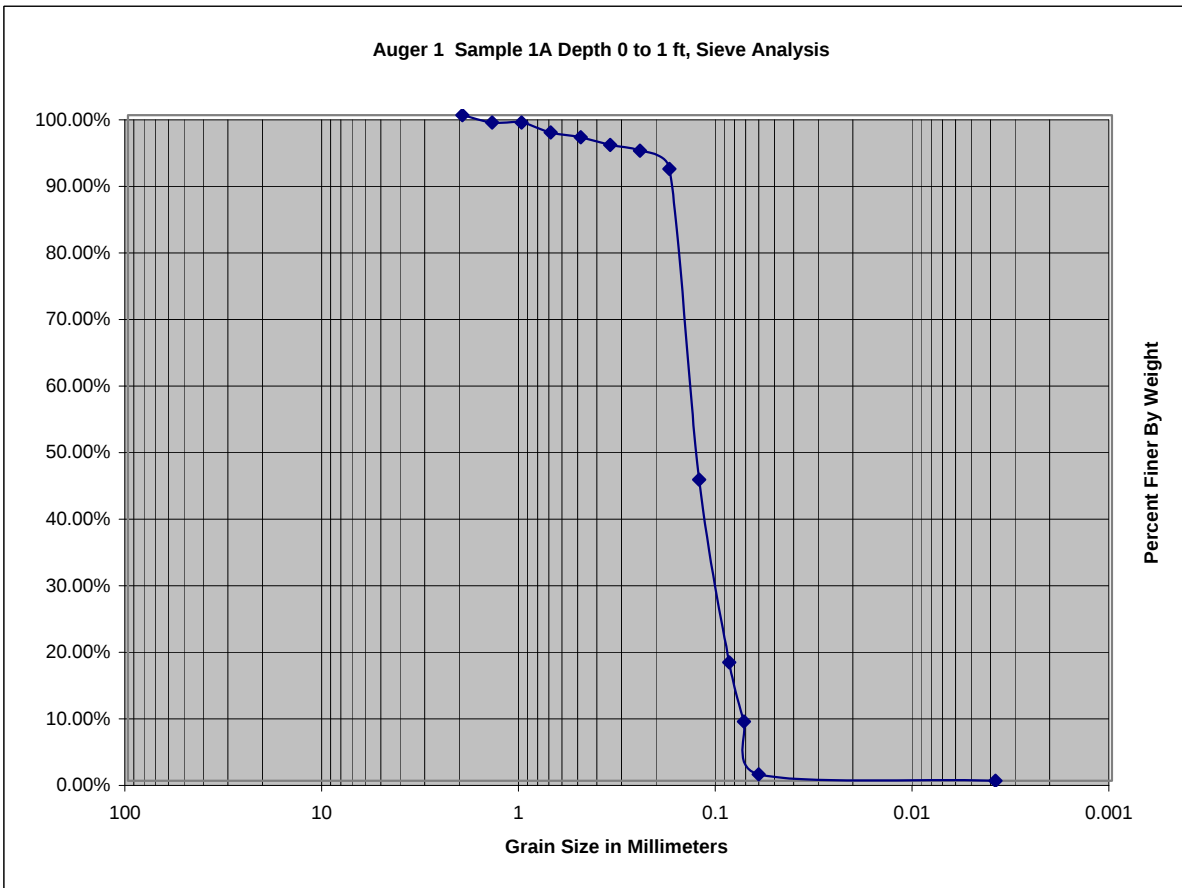
Total Weight of Sediment = 91.75 grams

Median Sand Size:		Diameter formulas must be adjusted for accurate percentage, formulas are interpolation equations			
	$D_{50} =$	0.13	$D_{16} =$	0.07	$D_{84} =$ 0.03
	$\phi_{50} =$	2.9	$\phi_{16} =$	3.8	$\phi_{84} =$ 4.9
			$D_5 =$	0.26	$D_{95} =$ 0.01
			$\phi_5 =$	1.9	$\phi_{95} =$ 6.2

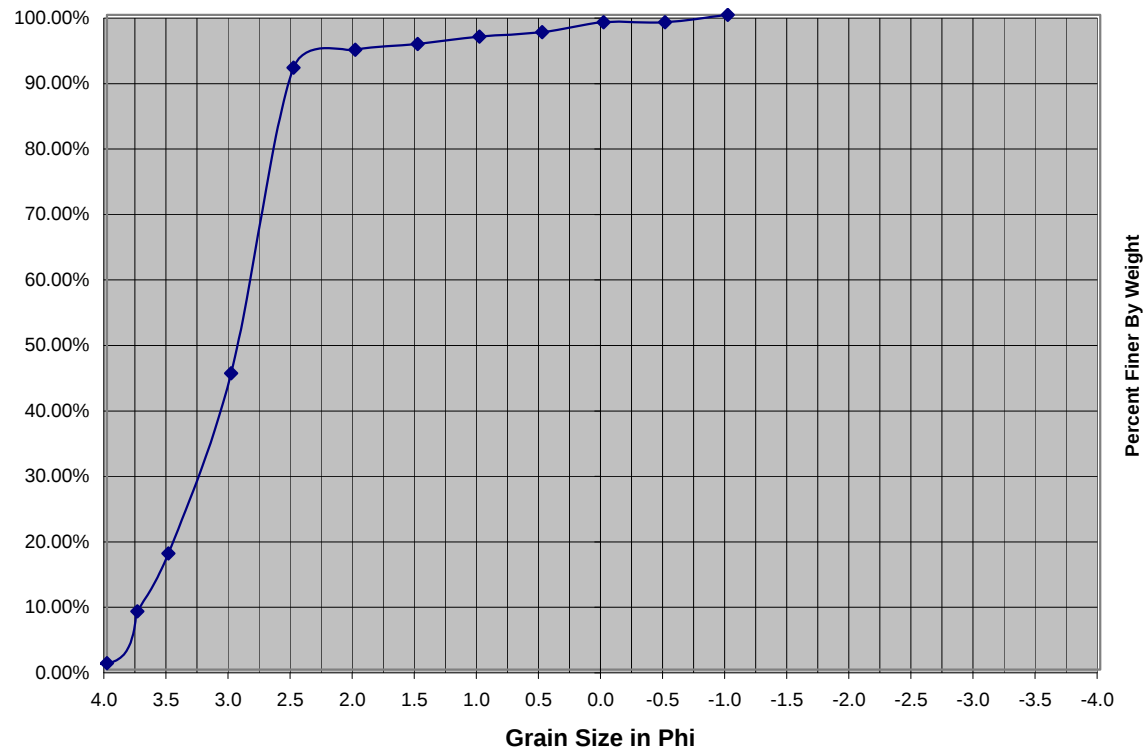
Mean:		
	PHI	mm
$M_{d\phi} = (\phi_{16} + \phi_{84})/2 =$	4.4	0.0

Standard Deviation:		
$\sigma_{\phi} = (\phi_{84} - \phi_{16})/4 + (\phi_{95} - \phi_5)/6 =$	1.0	Perfectly Sorted
		$\sigma_{\phi} \leq 0.5$: Sample is well sorted. $\sigma_{\phi} \geq 1.0$: Sample is poorly sorted.

Skewness:		
$\alpha_{\phi} = (\phi_{16} + \phi_{84} - (2 * \phi_{50})) / (2(\phi_{84} - \phi_{16})) + (\phi_5 + \phi_{95} - (2 * \phi_{50})) / (2(\phi_{95} - \phi_5)) =$	-1.6	Coarse-Skewed
		$\alpha_{\phi} < -0.1$: Sample is Coarse-Skewed $\alpha_{\phi} -0.1$ to $+0.1$: Sample is Near-Symmetrical $\alpha_{\phi} > +0.1$: Sample is Fine-Skewed



Auger1 Sample 1A Depth 0 to 1 ft, Sieve Analysis



Work Order No. 1306-06-001
Dredged Material Placement Area (DMPA)
Pelican Island Geotechnical investigation
GLO Contract No. 06-090C
Requisition No. 317-6-0482

Samples taken from the beach and dune system at Galveston County Beach Pocket No. 1 - 7-1/2 Mile Road.

Sample Analysis Performed by: HVJ, Associates

Grain Size Analysis Performed by: GBA, Associates

Sample No: PPS1A						
Sieve Size, (No.)	Sieve Size, (mm)	Cumulative Weight Retained on Sieve, (grams)	Weight Retained on Sieve, (grams)	Phi, f	% Coarser by Weight	% Finer than by Weight
3/4"	19	0	0	-4.2	0.00%	100.00%
1/2"	12.5	2.16	2.16	-3.6	1.89%	98.11%
3/8"	9.5	3.02	0.86	-3.2	2.65%	97.35%
4	4.75	4.05	1.03	-2.2	3.55%	96.45%
8	2.36	4.38	0.33	-1.2	3.84%	96.16%
16	1.18	5.02	0.64	-0.2	4.40%	95.60%
30	0.59	6.07	1.05	0.8	5.32%	94.68%
50	0.297	7.6	1.53	1.8	6.66%	93.34%
100	0.149	22.8	15.2	2.7	19.99%	80.01%
200	0.074	106.8	84	3.76	93.64%	6.36%
Pan	0.062	114.05	7.25	4.0	100.00%	0.00%

Total Weight of Sediment = 114.05 grams

Median Sand Size:

$$D_{50} = \frac{0.112}{3.2}$$

$$\phi_{50} = 3.2$$

$$D_{16} = \frac{0.18}{2.5}$$

$$\phi_{16} = 2.5$$

$$D_{84} = \frac{0.08}{3.6}$$

$$\phi_{84} = 3.6$$

Mean:

$$M_{d\phi} = (\phi_{84} + \phi_{16}) / 2 = 3.1$$

Sorting:

$$\sigma_{\phi} = (\phi_{84} - \phi_{16}) / 2 = 0.6$$

Perfectly Sorted

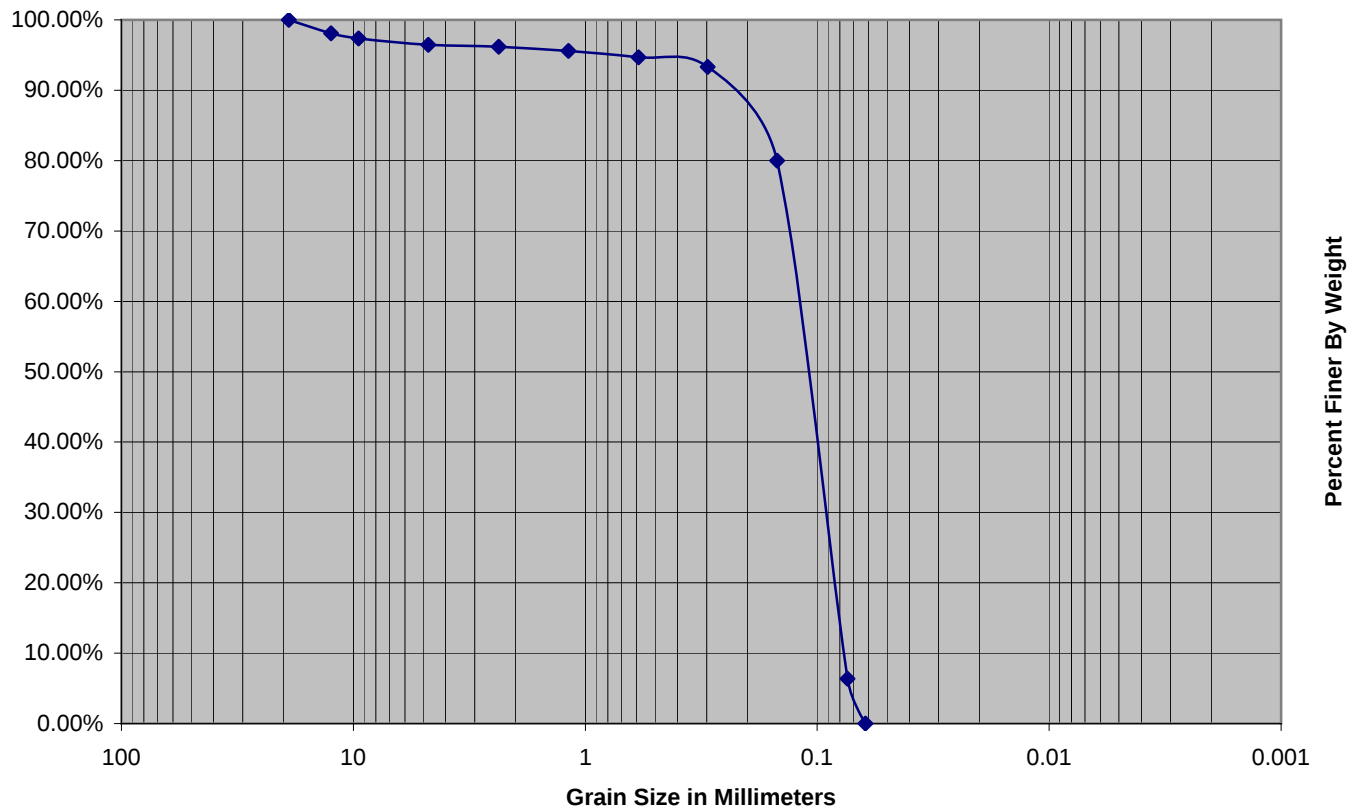
$\sigma_{\phi} \leq 0.5$ Sample is well sorted.

$\sigma_{\phi} \geq 1.0$ Sample is poorly sorted.

Skewness:

$$\alpha_{\phi} = (M_{d\phi} - \phi_{50}) / \sigma_{\phi} = -0.2$$

Boring No. PPS1A, Sieve Analysis



Boring No. PPS1A, Sieve Analysis

